

**REMARKS**

Claims 1-27 are pending in this application, with claims 1-8, 17, 18, 22 and 23 being withdrawn by way of a prior Restriction Requirement. By this Amendment, claims 9-13, 24 and 25 have been amended and new claims 26 and 27 have been added.

The amendments to claim 9 merely revise the claim to more positively recite the inclusion of the conductive material in the heat resistant resin film. The amendments to claims 10-12, 24 and 25 merely eliminate antecedent basis issues in these claims. The amendment to claim 13 corrects the Markush language of this claim to be in accepted U.S. format. The amendment to claim 19 revises this claim to properly depend from elected product claim 9.

No new matter is added by this Amendment. Support for new claims 26 and 27 may be found in the original specification at, for example, pages 35-36 and the Figures.

I. Rejections Under 35 U.S.C. §103(a)

A. Saeki in View of Buchan

Claims 9-13, 16, 19, 20 and 21 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 6,336,025 (Saeki) in view of U.S. Patent No. 3,923,392 (Buchan). This rejection is respectfully traversed.

Claim 9 of the present application recites a heat resistant resin film with a metal thin film. The heat resistant resin film includes therein a conductive material biased to one surface of the heat resistant resin film, which conductive material acts as an electrode in the application of the metal thin film to the heat resistant resin film by electrolytic plating. Saeki, either alone or in combination with Buchan, would not have suggested the heat resistant resin film with a metal thin film as recited in claim 9 to one of ordinary skill in the art.

Saeki describes an intermediate transfer belt for an image forming apparatus that includes therein at least one position detecting hole for detecting a rotational position of the

intermediate transfer belt within the apparatus. See the Abstract. Saeki describes that by being able to precisely determine the rotational position of the intermediate transfer belt in the image forming apparatus, high quality images free from offset can be produced at a low cost.

At column 15, lines 59-65, it is described that the intermediate transfer belt may be comprised of a resin material such as PVDF, ETFE, polyimide or polycarbonate, with electrically conductive materials such as carbon black dispersed therein.

Saeki differs from the heat resistant resin film of claim 9 in that Saeki fails to teach or suggest either (1) a conductive material biased to one surface of the heat resistant resin film or (2) a metal thin film upon the heat resistant resin film.

Regarding (1), Saeki directs one of ordinary skill in the art away from having the conductive material biased to one surface of the heat resistant resin film. Concentrating the conductive material to one surface of the heat resistant resin film as in claim 9 of the present invention is advantageous in allowing the conductive material to act as an electrode in the application of the metal thin film to the heat resistant resin film by electrolytic plating. To the contrary, Saeki teaches against any concentration of the conductive material to one surface of the resin layer of the intermediate transfer belt. In particular, at column 16, lines 42-49, it is indicated that the intermediate transfer belt is made so that the electrically conductive material is "uniformly dispersed and oriented in the liquid material" so as to avoid nonuniformity in the resistivity of the intermediate transfer belt. Saeki thus teaches that the intermediate transfer belt must comprise a uniform film (column 16, lines 34-35) in which the electrically conductive material is uniformly dispersed so as to avoid any nonuniformity in the resistivity of the intermediate transfer belt. As such, Saeki not only fails to describe a heat resistant resin film including therein a conductive material biased to one surface of the heat resistant resin film, Saeki directs one of ordinary in the art away from a heat resistant

resin film having conductive materials concentrated to one surface as in the heat resistant resin film of claim 9.

Further, even if one of ordinary skill in the art would have turned to the teachings of Buchan as alleged in the Office Action so as to have added a thin reflecting layer of aluminum to the intermediate transfer belt of Saeki, the heat resistant resin film of claim 9 still would not have been achieved. Here again, the intermediate transfer belt of Saeki having a thin reflective layer of aluminum thereon would still not include a heat resistant resin film including therein a conductive material concentrated to one surface of the heat resistant resin film as in present claim 9.

Finally, regarding claim 21, not only do Saeki and Buchan fail to teach or suggest the heat resistant resin film of claim 9 as an endless intermediate transfer belt of an image forming apparatus as recited in claim 21 for all the reasons discussed above, Saeki and Buchan also fail to teach or suggest an image forming apparatus in which the transfer fixing unit includes an electromagnetic induction coil disposed in opposition to the intermediate transfer belt. Saeki and Buchan thus fail to teach or suggest the image forming apparatus of claim 21 for this additional reason.

For at least the foregoing reasons, Applicants respectfully submit that Saeki and Buchan, whether taken singly or in combination, fail to teach or suggest the presently claimed invention. Reconsideration and withdrawal of this rejection are respectfully requested.

B. Sasagawa in view of Buchan

Claims 9-14, 16, 19, 20, 24 and 25 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 6,376,594 (Sasagawa) in view of Buchan. This rejection is respectfully traversed.

Sasagawa describes a conductive member having a single-body structure and formed of a polymeric base material containing a conducting filler therein in which the concentration

of the conducting filler is lower at an end of the conductive member that contacts a subject member. See the Abstract and Figures 1A-1D. As described at column 1, lines 5-12, the conductive member is used for smoothing charges on, eliminating charges from, or establishing charges on any of an electrophotosensitive member, a transfer drum or transfer belt, an intermediate transfer belt or a developing blade.

Applicants respectfully submit that Sasagawa differs significantly from the presently claimed invention, and thus one of ordinary skill in the art would not have combined the teachings of Sasagawa and Buchan as alleged in the Office Action.

First, contrary to the assertion in the Office Action, Sasagawa does not teach or suggest that the conductive member may be used as a transfer member (see page 4, lines 5-7 of the Office Action). Rather, at column 12, lines 44-67, Sasagawa describes that the conductive member 30 may be disposed in contact with a transfer belt 32 or in contact with the inner surface of an intermediate transfer member 34 as shown in Figures 4A and 4B. In other words, the conductive member may be disposed so as to contact transfer belts of the image forming apparatus, thereby permitting charges to be smoothed on, eliminated from or established on these transfer members as described at column 1, lines 5-12. Sasagawa nowhere teaches or suggests that the conductive member described therein may itself may be used as the transfer member.

Moreover, as correctly recognized by the Patent Office, Sasagawa fails to teach or suggest the inclusion of a metal thin film on the conductive member. The Patent Office turned to the teachings of Buchan as allegedly remedying this deficiency. However, as Buchan at best suggests the use of a reflecting layer of aluminum on an intermediate transfer belt, Applicants respectfully submit that nothing in Buchan would have suggested the use of such reflecting aluminum layer upon the conductive member of Sasagawa.

That is, as discussed above, Sasagawa teaches the use of a conductive member that contacts a transfer belt in order to smooth, eliminate or establish charges on the transfer belt. Buchan, on the other hand, at best describes inclusion of an aluminum reflecting layer on a transfer belt, and teaches nothing about a conductive member that may be in contact with the transfer belt. Nothing in Buchan would have led one of ordinary skill in the art to have taken an aluminum reflecting layer of a transfer belt from the transfer belt and included it upon a conductive member that might contact the transfer belt for any reason.

At best, the combined teachings of Sasagawa and Buchan would have led one of ordinary skill in the art to have included the conductive member structure of Sasagawa in contact with the transfer belt of Buchan, but nothing in either reference would have suggested interchanging the structural parts of these different members.

For at least the foregoing reasons, Applicants respectfully submit that neither Sasagawa nor Buchan, whether taken singly or in combination, would have suggested the invention of claim 9 to one of ordinary skill in the art. Reconsideration and withdrawal of this rejection are respectfully requested.

C. Saeki in View of Goto

Claims 9-13, 16 and 19-21 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Saeki in view of U.S. Patent No. 5,172,173 (Goto). This rejection is respectfully traversed.

The deficiencies of Saeki were extensively discussed above. The Patent Office relied upon Goto for reasons similar to the Patent Office's reliance upon Buchan above, that is, as allegedly suggesting the inclusion of a thin metal film on the intermediate transfer belt of Saeki.

Like Buchan discussed above, Goto also fails to remedy the deficiencies of Saeki. That is, even if one of ordinary skill in the art were to have combined the teachings of Saeki

and Goto as alleged in the Office Action, the heat resistant resin film of claim 9 still would not have been achieved. In particular, neither Saeki nor Goto teach or suggest the heat resistant resin film in which the heat resistant resin film includes therein a conductive material biased to one surface of the heat resistant resin film.

Still further, Applicants respectfully submit that one of ordinary skill in the art would not have been led by the teachings of Goto to have included a metal thin film upon the intermediate transfer belt of Saeki as alleged in the Office Action. Specifically, the Office Action refers to column 2, line 39+ and column 3, line 16+ of Goto as allegedly suggesting the inclusion of an electrical conductive layer on the back of a dielectric transfer belt. At these portions of Goto, prior art transfer belts are described. Although a transfer belt including an electrical conductive layer on the back of a dielectric transfer belt is identified, Goto describes that such structures have numerous problems. For example, at column 2, line 63 to column 3, line 15, it is described that such structures may include a seamed portion that results in pooling of toner that cannot be cleaned at such portions and also exhibits a charge-up phenomenon. Further, at column 3, lines 26-43, it is described that such structures give rise to the phenomenon of "scattering" and/or "inner drop-out." Goto then goes on to describe an improved transfer belt having a three-layer construction comprising an insulating resin layer 31, an adhesive layer 32 and a high-resistance elastomer layer 33. See column 6, lines 5-65.

Thus, Goto describes problems of transfer belts having electrical conductive layers therein, and instead teaches a transfer belt overcoming these problems and that does not include a metal thin film at all. As such, Applicants respectfully submit that Goto would not have led one of ordinary skill in the art to have included a metal thin film in a transfer belt as alleged in the Office Action, but instead would have directed one of ordinary skill in the art away from the use of such thin metal film in view of the known problems to be associated

therewith. Accordingly, the combined teachings of Saeki and Goto would not have led one of ordinary skill in the art to the presently claimed invention.

Finally, Saeki and Goto also fail to teach or suggest the image forming apparatus of claim 21 in which the image forming apparatus includes a transfer fixing unit having an electromagnetic induction coil disposed in opposition to an intermediate transfer belt.

For at least the foregoing reasons, Applicants respectfully submit that Saeki and Goto, whether taken singly or in combination, would not have led one of ordinary skill in the art to the claimed invention. Reconsideration and withdrawal of this rejection are respectfully requested.

D. Sasagawa in View of Goto

Claims 9-14, 16, 19, 20, 24 and 25 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Sasagawa in view of Goto. This rejection is respectfully traversed.

The deficiencies of Sasagawa were extensively discussed above. Goto fails to remedy these deficiencies.

First, as was extensively discussed above, Sasagawa describes a conductive member that may be in contact with a transfer belt, but does not describe a transfer belt itself. Thus, one of ordinary skill in the art would not have extracted any of the teachings of Goto describing transfer belts for inclusion upon the conductive member of Sasagawa.

Second, as was discussed immediately above, Goto describes problems associated with the use of metal thin films in transfer belts, and describes a transfer belt that does not include such a metal thin film. Accordingly, one of ordinary skill in the art would not have been directed to have used a metal thin film in the structure of Sasagawa for this additional reason.

For at least the foregoing reasons, Applicants respectfully submit that neither Sasagawa nor Goto, whether taken singly or in combination, would have led one of ordinary

skill in the art to the heat resistant resin film of claim 9. Reconsideration and withdrawal of this rejection are thus respectfully requested.

E. Sasagawa in View of Goto or Buchan and Further in View of Ohtani

Claims 15, 24 and 25 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Sasagawa in view of Goto or Buchan and further in view of U.S. Patent No. 5,534,581 (Ohtani). This rejection is respectfully traversed.

The Patent Office further turned to the teachings of Ohtani as allegedly teaching a transfer material comprising a matrix resin and a conductive particle or a plurality of conductive particles dispersed therein, in which the conductive particles may be conductive resin particles.

Applicants respectfully submit that even if one of ordinary skill in the art would have further turned to the teachings of Ohtani, such teachings would not have remedied the extensive deficiencies of Sasagawa, Goto and Buchan discussed above.

Accordingly, Applicants respectfully submit that none of Sasagawa, Goto, Buchan or Ohtani, whether taken singly or in any combination, would have led one of ordinary skill in the art to the heat resistant resin film of claim 9 or the image forming apparatus of claim 21. Reconsideration and withdrawal of this rejection are thus respectfully requested.

F. Saeki in view of Goto or Buchan and Further in View of Ohtani

Claims 14, 15, 24 and 25 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Saeki in view of Goto or Buchan and further in view of Ohtani. This rejection is respectfully traversed.

The deficiencies of Saeki, Goto and Buchan have been extensively discussed above. Ohtani remedies none of these deficiencies. Like Saeki, Ohtani describes a transfer material having conductive particles dispersed uniformly therein.



For the foregoing reasons, Applicants respectfully submit that none of Saeki, Goto, Buchan or Ohtani, whether taken singly or in any combination, would have led one of ordinary skill in the art to the heat resistant resin film of claim 9 or the image forming apparatus of claim 21. Reconsideration and withdrawal of this rejection are respectfully requested.

II. Rejoinder

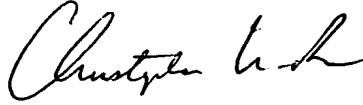
Applicants respectfully submit that upon allowance of claim 9 directed to a heat resistant resin film, the non-elected claims directed to a method of making such a heat resistant resin film should be rejoined with the application and similarly allowed.

III. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-27 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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